

- 1     What is claimed is:
- 2     1. A thin type camera module comprising:
- 3         a fixing board;
- 4         an imaging-sensing semiconductor assembly comprising a COF (chip-on film) wiring
- 5         film and an image sensing chip, wherein the COF wiring film has a surface, a window
- 6         and a plurality of connecting ends disposed on the surface of the COF wiring film
- 7         around the window, the image sensing chip has a photosensitive surface
- 8         corresponding to the window, and a plurality of bumps are formed on peripherals of
- 9         the photosensitive surface, the image sensing chip is flip-chip mounted on the COF
- 10        wiring film to electrically connect the bumps with the connecting ends; and
- 11        a lens holder for connecting a camera lens, wherein the lens holder has a
- 12        light-pervious channel and is connected with the fixing board to form an airtight space
- 13        for sealing the image sensing chip, and the photosensitive surface of the image
- 14        sensing chip is corresponding to the light-pervious channel for capturing image.
- 15     2. The thin type camera module in accordance with claim 1, further comprising at least
- 16        an electric device electrically connected with the COF wiring film.
- 17     3. The thin type camera module in accordance with claim 2, wherein the electric device
- 18        is a passive component.
- 19     4. The thin type camera module in accordance with claim 2, wherein the COF wiring
- 20        film formed a module circuit electrically connecting the electric device.
- 21     5. The thin type camera module in accordance with claim 4, wherein the module circuit
- 22        is formed on an extending surface of the COF wiring film without being covered by
- 23        the lens holder.
- 24     6. The thin type camera module in accordance with claim 1, further comprising a
- 25        sealant layer is formed around the window of the COF wiring film for enclosing the
- 26        bumps of the image sensing chip.
- 27     7. The thin type camera module in accordance with claim 6, wherein the sealant layer is

- 1        an anisotropic conductive film (ACF).
- 2        8. The thin type camera module in accordance with claim 6, wherein the sealant layer is
- 3        a non-conductive film (NCF).
- 4        9. The thin type camera module in accordance with claim 6, wherein the sealant layer is
- 5        transparent thermosetting compound.
- 6        10. The thin type camera module in accordance with claim 1, wherein the COF wiring
- 7        film has at least a conductive via electrically connecting the connecting ends.
- 8        11. The thin type camera module in accordance with claim 1, wherein the lens holder
- 9        comprises a filter aligning with the light-pervious channel.
- 10       12. The thin type camera module in accordance with claim 1, further comprising a
- 11       camera lens connected with the lens holder.
- 12       13. The thin type camera module in accordance with claim 1, wherein the fixing board
- 13       has a recession for locating the image sensing chip.
- 14       14. The thin type camera module in accordance with claim 1, wherein the airtight space is
- 15       in vacuum state.
- 16       15. The thin type camera module in accordance with claim 1, wherein the airtight space
- 17       filled with inert gas.